

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

ZIMLICH, David A.

Atty. Ref.: 2146-12

Serial No. 09/620,140

Group: 2674

Filed: July 20, 2000

Examiner: J. Nguyen

For: DRIVER CIRCUIT AND MATRIX TYPE DISPLAY DEVICE
USING DRIVER CIRCUIT

* * * * *

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APR 21 2003

April 17, 2003 Technology Center 2600

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

REQUEST FOR RECONSIDERATION

This paper is responsive to the office action dated December 17, 2002 (for which petition is hereby made for a one-month extension of time). For the reasons set forth below, reconsideration and allowance of the subject patent application are respectfully requested.

Claims 1, 2, 5-11, 15-19, 21 and 22 were rejected under 35 U.S.C. Section 103(a) as allegedly being "obvious" over Sakuragi et al. (U.S. Patent No. 6,195,076) in view of Shimizu (U.S. Patent No. 6,201,529).

Sakuragi et al. discloses an electron-beam generating apparatus in which electron beams are uniformly output at high speed from a multi-electron beam source. The Figure 4 embodiment of Sakuragi et al. includes a pulse width modulator 8 that outputs a voltage

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signal obtained by performing pulse-width modulation on the image data stored in line memory 6. The voltage signal is supplied to a voltage amplifier 21 and inverter 22. The voltage amplifier 21 amplifies the voltage signal up to a level of a charging voltage. In this arrangement, because the parasitic capacity is charged at high speed by virtue of voltage amplifier 21 and rectifier 31, the driving current from constant current source 11 is supplied immediately to the electron-emitting devices.

Sakuragi et al. does not disclose an arrangement including pulsewidth modulation circuitry for generating pulsewidth modulated video data, and driver circuitry for latching the pulsewidth modulated video data and driving signal lines or column lines in accordance with the latched data as set forth in independent claims 1 and 9. Likewise, Sakuragi et al. does not disclose the steps of generating pulsewidth modulated video data; latching the pulsewidth modulated video data; and driving the signal lines in accordance with the latched data as set forth in claim 18. Sakuragi et al. also fails to disclose driver circuitry including latch circuits for latching pulsewidth modulated video data as set forth in claim 22. In short, Sakuragi et al. makes no provision for latching the output of pulsewidth modulator 8 nor would there have been any suggestion to one of ordinary skill in the art to do so.

The office action alleges that Shimizu remedies this deficiency. In particular, with reference to Figure 5, the office action alleges that Shimizu discloses latching (406) the pulsewidth modulated video data 401 and driving the signal lines in accordance with the latched data. Applicant does not agree that PWM signal generator 401 supplies pulsewidth modulated video data or that Shimizu is properly combinable with Sakuragi et al. However, in any event, it is apparent from Figure 5 that the output of

PWM signal generator 401 is supplied to segment driver 407, not to latch circuit 406.

Thus, in contrast to the assertion in the office action, Shimizu does not disclose latching the pulsewidth modulated data of signal generator 401. Accordingly, the proposed combination of Shimizu and Sakuragi et al. would not have resulted in the subject matter of claims 1, 8, 18 and 22.

Claims 2, 5-7, 9-11, 15-17, 19, and 21 depend from one of claims 1, 8, 18 and 22. Because of these dependencies and because these claims recite additional subject matter not taught or suggested by the proposed combination, these claims would likewise have not been rendered obvious by Sakuragi et al. and Shimizu.


The rejections of the remaining dependent claims are predicated on the proposed Sakuragi et al.-Shimizu combination in view of certain other references such as Mosier (U.S. Patent No. 6,353,425), Wood (U.S. Patent No. 6,288,695) and Hashimoto (U.S. Patent No. 6,014,122). While Applicant does not acquiesce in these rejections, these other references do not remedy the above-discussed deficiencies of the Sakuragi et al.-Shimizu combination. Thus, the proposed combinations of these other references with Sakuragi et al. and Shimizu would not have resulted in the subject matter of the remaining dependent claims.

ZIMLICH, David A.
Serial No.: 09/620,140

The pending claims are believed to be allowable and notification to that effect is respectfully requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.

A handwritten signature in cursive script, appearing to read "Michael J. Shea", is written over a horizontal line.

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Atty Dkt. 2146-12

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Serial No. 09/620,140

Group Art Unit: 2674

Filed: July 20, 2000

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Title: DRIVER CIRCUIT AND MATRIX TYPE DISPLAY DEVICE USING DRIVER CIRCUIT

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Washington, DC 20231

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Technology Center 2600

Sir:

RESPONSE/AMENDMENT/LETTER

This is a response/amendment/letter in the above-identified application and includes an attachment which is hereby incorporated by reference and the signature below serves as the signature to the attachment in the absence of any other signature thereon.

☒ **Correspondence Address Indication Form Attached.**

Fees are attached as calculated below:

Total effective claims after amendment **25** minus highest number
previously paid for **25** (at least 20) = 0 x \$ 18.00 \$ 0.00

Independent claims after amendment **4** minus highest number
previously paid for **4** (at least 3) = 0 x \$ 84.00 \$ 0.00

If proper multiple dependent claims now added for first time, add \$280.00 (ignore improper) \$ 0.00

Petition is hereby made to extend the current due date so as to cover the filing date of this paper and attachment(s) (**\$110.00/1 month**; \$410.00/2 months; \$930.00/3 months) \$ 110.00

Terminal disclaimer enclosed, add \$ 110.00 \$ 0.00

☐ First/second submission after Final Rejection pursuant to 37 CFR 1.129(a) (\$750.00) \$ 0.00

☐ Please enter the previously unentered, filed

☐ Submission attached

Subtotal \$ 110.00

If "small entity," then enter half (1/2) of subtotal and subtract -\$ 0.00

☐ Applicant claims "small entity" status. ☐ Statement filed herewith

Rule 56 Information Disclosure Statement Filing Fee (\$180.00) \$ 0.00

Assignment Recording Fee (\$40.00) \$ 0.00

Other: 0.00

TOTAL FEE ENCLOSED \$ 110.00

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140. A duplicate copy of this sheet is attached.

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By Atty: Michael J. Shea, Reg. No. 34,725

Signature: Michael J. Shea